



Cure: Ruxolitinib

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An immune-modulating drug may reduce the size of the HIV reservoir and help reverse immune dysfunction. Antiretrovirals can keep HIV replication suppressed, but the virus inserts its genetic blueprint—known as a provirus—into the DNA of human cells and establishes a long-lasting reservoir that makes a cure nearly impossible. A Phase II trial enrolled 60 adults on antiretroviral therapy with viral suppression; 40 added ruxolitinib (Jakafi), an oral JAK 1/2 inhibitor, for five weeks. Ruxolitinib recipients with a high viral reservoir saw a significant decline in proviral DNA in peripheral blood cells, but there was no change in those with a low reservoir. The researchers calculated that 99.99% viral clearance could potentially be achieved in 2.9 years. The drug reduces the life span of cells harboring latent virus and blocks inflammation that allows the reservoir to persist, according to Monica Reece, a PhD student at Emory University. What's more, ruxolitinib may be helping to maintain remission in a man who appears to be cured after a stem cell transplant.

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